ISSN 0317-2473

Research Discussion Paper No. 76

MIGRATION TO QUEBEC: A CENSUS ANALYSIS OF BRITISH AND FRENCH CANADIANS, 1966-71 AND 1976-81

By

Manoshi Das
&
Frank Trovato

Department of Sociology
University of Alberta
Edmonton, Alberta

FEBRUARY 1991

ABSTRACT

This paper examines the migration of the British and the French ethnic groups to Quebec from the rest of Canada during the census periods 1966 to 1971 and 1976 to 1981. Migration rates and two groups of variables were examined: migrant characteristics (social demographic, ethnic, and minority group status) and origin-destination conditions (economic and subcultural).

The migration rates indicate that there was a difference in favor of the French group during both census periods and that the difference in migration rates between the two ethnic groups widened over the periods examined due to a relatively large decline for the British group. However, there was also a small decline for the French group between census periods.

Migration of the two charter groups ceased being male dominated between census periods and ethnic factors in favor of the French group played a slightly stronger role during the later period. The only evidence for a minority group status effect was found within the British ethnic group between individuals having French or English mother tongue during the later period. Conditions in Quebec, the area of destination, appeared to play a larger role during the later period but the strict costs/benefits assumptions made about migrants' behavior did not hold very well.

Overall, it is argued that the results foster support for the federal policy of bilingualism and biculturalism in the rest of the country regardless of Quebec's actions and suggest that a conceptual framework in which both migrant characteristics and area conditions are considered is of theoretical value.

1. INTRODUCTION

The modernization of Quebec and discontent of its Francophone population has had far-reaching consequences for Quebec's Anglophone community and for the Francophone communities in the rest of the country. The progressive determination of French Quebeckers to assert their majority status within the boundaries of Quebec has increasingly forced Quebec's Anglophones to adjust to the reality of being a minority group in a predominantly Francophone society. A central implication of this recent change in Quebec is that many Anglophones have been deciding to leave the province for more congenial areas of the country or continent where their ethnic/linguistic group predominates: "[K]nowing that they have a whole continent in which they can live and work in their own language, most Anglophones find it easier to leave Quebec than to make the effort required to live in French" (Joy, 1978:39). On the other hand, Francophone minorities in the rest of the country have been left ideologically, as well as geographically, isolated from Quebec by the province's postwar transformations. While French Canadians in Quebec have begun to develop a modern interpretation of the ideology of "la survivance" based on being a majority within the boundaries of Quebec, French Canadians in the rest of Canada have continued to adhere to its traditional interpretation based on being an ethnic minority within the country as a whole (Wieler, 1985:60&76-77).

Historically, the British/Anglophone group has had a much higher propensity than the French/Anglophone group to leave Quebec with shifting economic opportunities in other parts of the country. Leaving Quebec was considered to be a form of exile from the true "homeland" among French Canadians and they also faced considerable hostility and

societal pressures to anglicize in the rest of the country (Beaujot, 1979:18-19). This difference in out-migration propensities from Quebec to the rest of the country between the two groups has also been evident during more recent years. For example, Lachapelle and Henripin have demonstrated with census data that of all out-migrants from Quebec to the rest of Canada during the period 1956 to 1961, 48.1 percent were of British ethnic origin while 34.6 were of French ethnic origin. During the period 1966 to 1971, these percentages were 48.8 and 32.1, respectively, indicating that the trend had become slightly more pronounced over time (1982:204).

In contrast, migration to Quebec from the rest of the country has had a tendency towards predominance by the French ethnic group during recent decades. The data provided by Lachapelle and Henripin indicate that of all migrants to Quebec from the rest of Canada during the period 1956 to 1961, 48.5 percent were of British ethnic origin while 37.7 percent were of French ethnic origin. During the period 1966 to 1971, the percentage of British migrants declined to 41.0 while the percentage of French migrants increased to 43.6 (Lachapelle and Henripin, 1982:204).

Two specific research questions will be addressed in this study: (1) What is the relationship between minority group status and migration to Quebec from the rest of Canada, and how has this relationship been conditioned by time? and (2) What is the relationship between minority/majority migration to Quebec from the rest of Canada and the social, economic and demographic characteristics of areas of origin and destination?

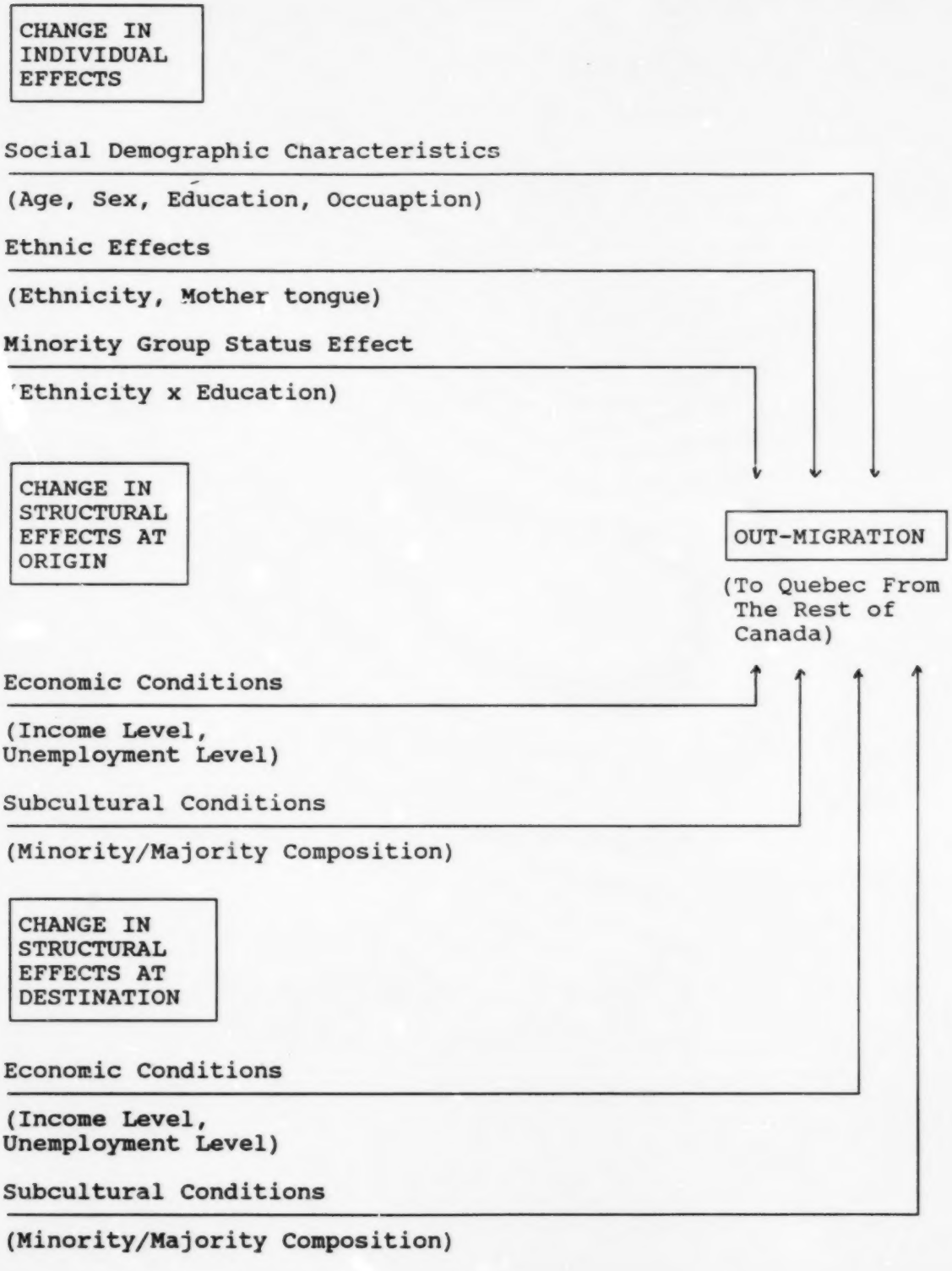
2. CONCEPTUAL AND OPERATIONAL FRAMEWORK

As stated by Lee (1966), migration occurs as a consequence of "positive" and "negative" factors associated with the areas of origin and desgination, intervening obstacles between the two areas and personal factors associated with individual migrants. Positive factors hold or attract - "pull" - potential migrants to an area while negative factors drive away or repel - "push" - potential migrants from an area: "Clearly the set of +'s and -'s at both origin and destination is differentially defined for every migrant or prospective migrant. Nevertheless, we may distinguish classes of people who react in similar fashion to the same general set of factors at origin and destination" (Lee, 1966:50).

In the conceptual and operational model in Figure 1, Individual Effects, or migrant characteristics, represent personal factors associated with the migrants while Structural Effects represent pushes and pulls associated with the areas of origin and destination. The framework adopted in this study does not explicitly consider intervening obstacles between the areas of origin and destination. This is because data limitations restrict the areas of origin to the single geographical unit "Canada excluding Quebec". Distance between areas of origin and destination is typically used as a proxy for intervening obstacles such as the cost of migrating and the disruption of social ties. However, the distance between "Canada excluding Quebec" and Quebec cannot be calculated.

The restriction of the areas of origin to the single geographical unit, "Canada excluding Quebec", also created another serious limitation to this study. "Canada excluding Quebec" is in fact composed of four

FIGURE 1. Conceptual/Operational Model for the Analysis of Migration to Quebec



quite distinct regions: the Maritimes, Ontario, the Prairies and British Columbia. The characteristics of these regions are quite diverse and to treat them as a single geographical unit entails making a considerable generalization. In fact, the inclusion of the region Quebec as the area of destination entails making a considerable generalization. While these generalizations were made necessary by limitations of the data, it is recognized that the structural variables are not necessarily the most precise indicators of socioeconomic conditions in the areas of origin and destination faced by individuals contemplating migration.

An assumption underlying the framework adopted for the analysis is that the decision to migrate is a form of individual optimizing behavior in which migrants attempt to optimize their overall - (i.e. economic, social, cultural, political) - quality of life and in which a long-term view is taken. In this "broadly conceived" costs/benefits perspective of migration, it is assumed that (a) individuals are rational, (b) they seek to maximize their monetary and non-monetary well-being, (c) objectively measured differences between areas convey information that is relevant to decision-making and (d) subject to information constraints, individuals will perceive and evaluate the desirability of alternative destinations on this basis (Shaw, 1985:11&53-54).

3. HYPOTHESES

A. Individual Effects

Age, sex and socioeconomic status (education, occupation) are among the most prominent characteristics associated with the propensity to migrate (Shaw, 1975; Ritchey, 1976; Lee, 1966; Petersen, 1969). Consequently, these social demographic characteristics will be included

in the analysis in order to assess their contribution to the migration differences between the British and French groups.

The importance of cultural factors to migration in the North American context has also been well established (Frisbie and Bean, 1979:2-3). Typically, the Ethnic Effect hypothesis has been viewed as an alternative explanation to the preceding one and argues that ethnicity per se, net of social characteristics, operates as an independent determinant of migration (Frisbie and Bean, 1979:4-6; Trovato and Halli, 1983).

The means by which ethnicity is theorized as exerting an independent influence on migration include: the existence of subcultural norms which encourage or discourage members of particular ethnic groups to migrate as for example those relating to social and community ties as well as to familism; the ability or inability to assimilate and adjust to places other than the locality of origin due to factors such as language; and the historical experiences of certain ethnic subpopulations which may have influenced their geographic location and subsequent tendency to migrate (Breton, 1968; Uhlenberg, 1973; Ritchey, 1976; Kobrin and Speare, 1983; Thompson, 1983; Trovato and Halli, 1983; Trovato, 1989).

This study hypothesizes that cultural factors have been operating as independent determinants of the migration differences between the British and French groups. With the increasing cultural differentiation between Quebec and the rest of the country during the postwar period, both groups have alternative milieus within the country in which their respective cultural traditions can be fully accommodated. It is speculated that amongst members of the two groups unable or unwilling to

accomodate to the other's traditions - particularly language - a change in community of residence amongst Francophones and continued residence in the rest of Canada amongst Anglophones would be preferable alternatives. Both ethnic origin and mother tongue are included in the analysis in order to assess the importance of cultural considerations to the British-French migration differences to Quebec.

As an alternative explanation to the preceding two hypotheses, the Minority Group Status hypothesis originates in the context of explaining ethnic and racial fertility differences (Goldscheider and Uhlenberg, 1969; Frisbie and Bean, 1979; Trovato and Burch, 1980). As a general explanation, it argues that the interaction of socioeconomic characteristics with ethnicity may operate as an independent determinant of demographic behavior when socially defined differences are used as a rationale for discriminatory behavior and for limiting a group's power and control of resources. It is theorized that under these conditions, the desire for social mobility among certain minority group members may produce social psychological insecurities which may themselves independently influence certain demographic behavior as a means of offsetting the disadvantageous effects of real and/or perceived discriminatory practices experienced by them during the process of social mobility. In relation to ethnic and racial fertility differences, for example, the social psychological insecurities of minority group members may result in them consciously deferring or limiting childbearing to a greater extent than similar members of the majority group, who do not suffer the same disadvantages in the process of social mobility. The interactive pattern associated with such a minority group status effect is one in which the fertility levels of

minority group members are higher than majority group members at low socioeconomic statuses and lower than majority group members at high socioeconomic statuses (Goldscheider and Uhlenberg, 1969:371-372).

Although the Minority Group Status hypothesis is less well developed in relation to migration, the literature suggests that the statistical interaction of socioeconomic characteristics with ethnicity also operates as an independent determinant of ethnic and racial migration differences (Ritchey, 1976; Trovato and Halli, 1983). This study proposes that under the conditions associated with minority group status, the desire for upward mobility among minority group members may produce certain social psychological insecurities which will increase the propensity to move. A minority group is one which has a history of prejudice and discrimination, is disadvantaged economically and has a clearly defined subculture. Important assumed conditions pertinent to this effect are: (1) the higher the education level of minority members, the lower is their subcultural attachments to their local community; (2) minority members experience prejudice and discrimination in their local community; (3) educated minority members will perceive that economic opportunities are better elsewhere; and (4) the lower the education, the greater the minority members' attachment to their local subculture, and hence, the lower their desire to move. Furthermore, it is hypothesized that these conditions produce an interaction effect where at high levels of education the minority members will show a greater propensity to move than the majority members at the same educational levels; and at low educational levels, the majority members will be more inclined to move than will minority members.

In light of the improving socioeconomic status of the Fench majority in Quebec during recent decades and the historic inequalities experienced by the French group in the rest of the country, the analysis will examine British-French migration differences for a Minority Group Status effect.

B. Structural (Ecological) Effects

Economic motivations appear to be a major causal factor in migration, especially among persons of labor force ages (Shaw, 1975:57). Economic "pushes and pulls" in the form of income and employment differences between areas can, therefore, be expected to play a major role in the migration process.

Income differences between areas have generally been attributed by researchers as having considerable importance in the decision to migrate. The explanation underlying the relationship is the competitive model of factor mobility which predicts that migration of labor will occur in direct response to average real-wage differences between areas and that its volume will increase as the real-wage difference increases. The model assumes full employment and perfect competition - i.e. that people want to maximize income, knowledge of employment opportunities is perfect, workers are many in number and homogeneous in skills and taste, there are no social or economic barriers to migration and that wages are considered in real terms. It may be noted that the model is an ideal type and real life conditions pose considerable challenges to these assumptions (Shaw, 1975:67;Ritchey, 1976:364).

Nevertheless, the literature indicates that, on average, individuals will move from low income to high income areas in order to

maximize their returns from employment. Generally, higher income at an area of destination exerts a greater influence on migration between areas as a "pull" than does lower income at an area of origin as a "push" (Shaw, 1975:67-72; Ritchey, 1976:365-370). Wage levels in a sending area have an inconsistent and unpredictable overall effect on migration as when they are low, migration can be impeded due to prohibitive costs and when they are high, they can exert a negative influence due to income foregone as a result of migration and a positive influence due to greater ease of financing movement (Shaw, 1975:134).

The second economic factor which will be considered is the unemployment levels of the areas of origin and destination. Unemployment is typically included in labor migration research as an indicator of the extent to which jobs are available in the areas of concern. Research indicates that a relatively high unemployment rate in an area is associated with relatively high rates of out-migration and relatively low rates of in-migration to the area. A relatively high unemployment level in the area of origin has, however, been found to exert a greater influence in the form of a "push" than a relatively high unemployment level in the area of destination (Shaw, 1975; Ritchey, 1976).

Ritchey's review of the migration literature concerning community and kinship ties leads him to conclude that, in general, "Kinship and friendship affiliations tend to tie individuals to communities. Within the push-pull framework, if relatives and friends are located in the individual's community of residence, migration is deterred, but if they reside elsewhere, migration is more probable and directed toward their location" (1976:389). Ritchey suggests three explanations for the

relationship: the "affinity" hypothesis argues that the presence of relatives and friends is a valued aspect of life that acts to constrain migration; the "information" hypothesis argues that the distant location of family and friends encourages and directs migration by increasing a potential migrant's awareness of conditions such as job opportunities at the distant location; and the "facilitating" hypothesis which argues that the distant location of family and friends encourages and directs migration by increasing the individual's potential for adjustment through the availability of aid in relocation at an alternative area of residence (1976:389). In the United States this variable, or rather, its commonly used proxy, the percentage of the population that is black, has traditionally been introduced as an influence on black migration and often improves the association between black migration and economic factors where it is thought to play a supportive role in the face of racial discrimination (Ritchey, 1976:375). Lachapelle and Henripin have found the demolinguistic composition of areas to be extremely important to French-English migration within Canada and argue that it reflects the differential costs of obtaining information about, and of linguistic and cultural adaptation in, the area of destination (1982:221-222).

To evaluate the influence of sociocultural conditions in the areas of origin and destination on the pattern of French-British migration in Quebec, the analysis will include the comparative ethnic and linguistic compositions of the areas of origin and destination with respect to the French and British groups.

4. DATA

The Individual Files from Public Use Sample Tapes (PUST) of the Canadian censuses for 1971 and 1981 were used for the compilation of data specific to the requirements of the analysis, appropriate for the use of multiple regression.

For the data file, all migrant characteristics variables were restricted to Canadian-born persons only. Mother tongue was restricted to the two levels English and French and Ethnicity was restricted to the two levels British and French. Age was restricted to persons aged 15 or older at the beginning of each migration interval. A migrant was defined as an individual who resided in Quebec on the census date in 1971 or in 1981 but had resided in a different province five years earlier - i.e. 1966 or 1976. The number of non-migrants in Canada excluding Quebec corresponding to each unique combination of individual characteristics variables for both census periods was also compiled to serve as the denominator of the dependent variable. All census categories of mother tongue and ethnicity and both native-born and foreign-born were included for the compilation of non-migrants. Non-migrants were defined as individuals who resided in the same province (outside Quebec) on each census date as they had resided in five years earlier.

Origin and destination characteristics variables were computed based on non-migrants as defined above. The structural variable, Average Total Family Income, was computed by using the midpoint of 17 income categories reported in the census tape. Percent Unemployed of the total Labor Force was computed using the non-inmate population classified as being in the labor force, percentage of French Ethnic

Origin and of British Ethnic Origin were computed using persons of all ethnic origins and Percentage with French Mother Tongue and with English Mother Tongue were computed using persons of all mother tongues. All structural variables were computed on the basis of non-migrants for both census periods within both the area of origin and destination (that is, Quebec and rest of Canada).

5. METHODOLOGY

The dependent variable is the outmigration rate to Quebec from the rest of Canada, computed as follows: ((Number of Migrants to Quebec)/(Number of Migrants to Quebec) + (Number of Non-Migrants in Canada excluding Quebec)). This rate was computed for each unique combination of individual characteristics variables for both census periods. Data limitations restricted non-migrants to individuals who either had not moved during the census period or had made an intra-provincial move only. Thus the base population for the migration rate, conceptually the "population exposed to the risk of migration", excludes individuals who made inter-provincial moves outside of Quebec during the census period. However, since the risk of these individuals migrating to Quebec can be considered relatively low, their exclusion can be considered relatively minor. Nevertheless, their exclusion is noted.

For the purposes of the statistical analysis, individual characteristics variables were recoded as follows: Mother Tongue, Ethnicity, Sex and Occupation were all recoded into dummy variables: Mother Tongue (0 for English and 1 for French), Ethnicity (0 for British and 1 for French), Sex (0 for Male and 1 for Female), and Occupation (0 for Non-Professional and 1 for Professional). Education was coded 0 for

Primary, 1 for Secondary and 2 for Post-Secondary. Age was transformed from its linear form into the two dummy variables, Age1 (coded 1 for the 20 to 29 age group and 0 otherwise), Age2 (coded 1 for the 30 to 64 age group and 0 otherwise). By this coding, the reference category for both Age1 and Age2 is the 65+ age group. A Minority Group Status variable (MGS) was computed as a multiplicative term formed from ethnicity and education. It may be noted that a limitation with this operationalization of the MGS variable is that the presence of social psychological insecurities must be assumed amongst minority group members with relatively high educational attainment and are not directly measured due to lack of appropriate variables in the census. All Structural variables were retained in their interval-level form.

Since the distributions of the migration rate for both 1971 and 1981 were skewed, the natural logarithm of the dependent variable was taken, resulting in more normal distributions. It was also discovered that the relationship between migration and some of the predictors were curvlinear. The log transformation helped to produce a more linear relationship. Weighted Ordinary Least Squares Regression was used for both time periods in order to satisfy the assumption of homoskedasticity, or constant variance of the error term.

The Ethnic Effect variable, Mother Tongue, and a modified Minority Group Status variable were retained in the separate equations for the British and French ethnic groups. The Minority Group Status variable was computed with mother tongue in place of ethnic origin resulting in a multiplicative term formed from mother tonguexeducation. Variability in mother tongue for the two ethnic groups analyzed separately was considered as being possible as a result of intermarriage between the

two groups. The inclusion of the Mother Tongue and Minority Group Status variables in the equations for the two ethnic groups considered separately made it possible to determine if a differential within each ethnic group between members having an identification with the other group and members having no such identification, existed. The analysis in this study is based on a multiple regression model of migration to Quebec as a function of individual level effects, origin effects, and destination effects, as reflected in Figure 1.

6. RESULTS

Migration Rates

As indicated by Table 1, there was a difference in favor of the French ethnic group in the migration of the two charter groups to Quebec from the rest of the country during both periods examined in this study. While the propensity of both ethnic groups to migrate to Quebec declined over the two time periods examined, the decline for the British group was relatively greater. As a result, the difference in migration rates between the two groups widened over time.

Regression Analyses

Individual Level Effects: 1966 to 1971

Table 2 provides the results of the Individual characteristics variables for the two charter groups considered together. Discussion of this table will be restricted to the Ethnic Effect and Minority Group Status hypotheses, as all other effects are in the expected direction.

It is apparent that the significance of the ethnic factor found in previous migration research is also evident in the migration behavior of the two charter groups. Ethnic origin is the second strongest influence

Table 1: Out-Migration Rates to Quebec, 1966-71 and 1976-81 *

Group	Period		% Change 1971-1981
	1971	1981	
British and French	.0017	.0011	-35.29
British Only	.0016	.0008	-50.00
French Only	.0019	.0015	-21.05

* Rate = (Total Migrants)/((Total Migrants) + (Total Non-Migrants)).

Table 2: Individual Level Effects for 1966-1971
(British and French Groups Combined)

Variable	b	SEb	Beta	t
Age1	1.647	.142	.330	11.608*
Age2	1.099	.134	.230	8.180*
Sex	-.218	.079	-.045	-2.773*
Educ	.722	.078	.219	9.255*
Occ	.332	.087	.065	3.833*
Eth	1.367	.129	.289	10.579*
MT	.002	.077	4.873x10-4	.030
MGS	-.808	.107	-.240	-7.573*
Constant	-10.061	.152		-66.126*

R^2 = .920

$R^2_{ADJ.}$ = .899

$N_{WEIGHTED}$ = 3484

* $p \leq .01$

NOTE: In this and subsequent tables, A1 = Age 20-29, A2 = Age 30-64, Sex is coded as Male=1, Female=0, Educ=Education (0=Primary; 1=Secondary; 3=Post-Secondary), OCC=Occupation (0=Non-Professional; 1=Professional), ETH=Ethnicity (0=English; 1=French), MT=Mother Tongue (0=English; 1=French), MGS=Minority Group Status (Ethnicity x Education).

in the model; and as hypothesized, persons of French ethnic origin were more likely to migrate to Quebec than British ethnic origin persons. The effect of mother tongue, however, was not statistically significant.

While the minority group status variable was significant, the direction of effect hypothesized was not supported. At higher levels of educational attainment, French ethnic origin persons were less, rather than more, likely to migrate to Quebec than British ethnic origin persons. This suggests that the significant interaction effect resulted from the two groups' relative levels of educational attainment, orientations towards education and the local shortage of educated personnel for Quebec's private sector prevalent during that time. With generally higher and more technically oriented levels of education than the French group, members of the British group were more likely to be able to fill Quebec's private sector manpower shortage and thus more likely to migrate to Quebec.

As indicated in Table 3, socioeconomic considerations were paramount in the migration behavior of the British group, with education operating as the strongest influence. As hypothesized, this group's migration rate varied directly with level of educational attainment.

The minority group status variable was the second strongest influence for the British group. However, there was again no evidence for the hypothesized effect using the mother tongue variable. Even within the British ethnic group, individuals with French mother tongue and higher levels of educational attainment, were less, rather than more likely, to migrate to Quebec. It may be speculated that educational differences and disparities between the two groups explained this effect, or that relatively well-educated British ethnic origin/French

Table 3: Individual Level Effects for 1966-1971 by Ethnicity

British Group

Variable	b	SEb	Beta	t
Age1	1.060	.148	.210	7.139*
Age2	.786	.141	.163	5.589*
Sex	-.197	.082	-.040	-2.397*
Educ	1.464	.082	.438	17.944*
Occ.	-.294	.091	.057	3.243*
MT	-1.620	.135	-.338	-11.979*
MGS	-1.390	.112	-.408	-12.450*
Constant	-8.916	.154		-57.883*

R^2 = .5169

$R^2_{ADJ.}$ = .5149

$N_{WEIGHTED}$ = 1742

French Group

Variable				
Age1	2.228	.143	.460	15.549*
Age2	1.411	.136	.304	10.397*
Sex	-.240	.080	-.051	-3.013*
Educ	-.476	.079	-.148	-6.031*
Occ	.367	.088	.074	4.194*
MT	2.315	.131	.503	17.730*
MGS	.683	.108	.209	6.336*
Constant	-10.181	.149		-68.435*

R^2 = .5100

R^2_{ADJ} = .5081

$N_{WEIGHTED}$ = 1742

* $p \leq .01$

mother tongue persons in fact identified more with the British group than the French group and this identification made them more likely to consciously choose to remain outside of Quebec than their British ethnic origin/English mother tongue counterparts who did not experience such identity ambivalence.

Mother tongue was the third strongest influence for the British group but again, this result suggested a conscious and enacted identification of British ethnic origin/French mother tongue individuals with the British ethnic group and English Canada rather than an attraction to Quebec.

Cultural considerations were paramount in the migration behavior of the French ethnic group (Table 3) with mother tongue operating as the strongest influence. As predicted, individuals with French mother tongue were more likely to migrate to Quebec than individuals with English mother tongue. This difference suggests that within the French ethnic group, individuals who, according to mother tongue, were more assimilated into anglo-saxon culture, were more likely to remain outside of Quebec than persons who identified completely with the French group.

There was again no evidence for the hypothesized minority group status effect. At higher levels of educational attainment, persons with French mother tongue were more likely to migrate to Quebec than individuals with English mother tongue. However, the result for the mother tongue variable indicated that this difference within the French ethnic group occurred regardless of educational attainment.

Socioeconomic considerations were relatively weak influences for the French group with education and occupation operating as weak

influences on migration to Quebec. The migration rate was inversely related to educational attainment and directly with occupational level.

Individual Level Effects: 1976 to 1981

As indicated in Table 4, the relative strength of ethnic factors increased during the later period. Ethnic origin operated as the strongest influence on migration. As during the earlier period, persons of French ethnic origin were more likely to migrate to Quebec than British ethnic origin persons. In addition, language also became a statistically significant separate influence during the 1976 to 1981 period. Although it was the weakest influence, persons with French mother tongue were more likely to migrate to Quebec than individuals with English mother tongue.

The strength of the minority group status variable remained unchanged from the earlier period, but the hypothesis was again not supported, suggesting that the interaction effect continued to reflect educational differences and disparities between the two groups.

In Table 5, the cultural factor mother tongue became the strongest influence for the British group during the later period. However, as during the earlier period, persons with French mother tongue were less likely to migrate to Quebec than individuals with English mother tongue. This suggests that with the changes in Quebec during the later period, the identification of British origin/French mother tongue persons with the British group/English Canada became stronger. The strength of socioeconomic factors waned slightly but remained quite strong. Education was the second strongest influence while occupation exerted the weakest influence. Both exerted a direct effect.

Table 4: Individual Level Effects for 1976-1981
(British and French Groups Combined)

Variable	b	SEb	Beta	t
Age1	1.746	.118	.312	14.822*
Age2	.575	.112	.107	5.122*
Sex	.284	.062	.053	4.606*
Educ	1.407	.058	.399	24.111*
Occ	-.023	.068	-.004	-.332
Eth	2.201	.119	.414	18.425*
MT	.119	.061	.022	1.950**
MGS	-1.032	.081	-.322	-12.744*
Constant	-11.871	.133		-89.247*

R^2 = .1862

$R^2_{ADJ.}$ = .1851

$N_{WEIGHTED}$ = 6183

* $p \leq .01$
** $p \leq .05$

The strength of the minority group status variable decreased slightly in comparison to the earlier period but there was evidence for the hypothesized effect during the later interval. At higher levels of educational attainment, British origin/French mother tongue persons were more likely to migrate to Quebec than British origin/English mother tongue individuals. Perhaps as a result of the post-1976 changes in Quebec on the one hand, and anti-French backlash in the rest of the country on the other, British origin/French mother tongue individuals began to experience greater insecurities about their chances of social mobility and looked more to Quebec as a province of destination.

The relative strength of age remained about the same as during the earlier period, with the younger age categories remaining more likely to migrate. Gender differences ceased being significant in the migration behavior of the British group during the 1976-81 period.

In Table 5, mother tongue continued to operate as the strongest influence and French origin/French mother tongue individuals continued to have a greater propensity to migrate to Quebec than French origin/English mother tongue persons.

The socioeconomic variables education and occupation operated as slightly stronger influences during the later period but there was a reversal in the direction of both effects. The rate was directly related to education and inversely related to the occupation variable. It may be noted that the directions of these two variables opposed one another for the French group during both periods analyzed. Gender differences remained significant and continued to be the weakest influence. In contrast to the earlier period, however, females were more likely to migrate to Quebec than males.

Table 5: Individual Level Effects for 1976-1981 by Ethnicity

British Group

Variable	b	SEb	Beta	t
AgeL=	-.886	.046	-.206	-19.359*
Sex	-.015	.055	-.003	-.273
Educ	.943	.052	.274	18.117*
Occ	.574	.060	.103	9.511*
MT	-4.308	.107	-.831	-40.414*
MGS	.791	.072	.252	10.994*
Constant	-8.042	.089		-90.134*

R^2 = .6607

$R^2_{ADJ.}$ = .6601

$N_{WEIGHTED}$ = 3091

French Group

Variable				
Age1	2.231	.122	.401	18.291*
Age2	1.151	.116	.216	9.892*
Sex	.560	.064	.105	8.768*
Educ	.477	.060	.136	7.884*
Occ	-.646	.070	-.113	-9.212*
MT	3.615	.124	.684	29.230*
MGS	-.058	.084	-.018	-.695
Constant	-11.933	.134		-88.999*

R^2 = .5594

$R^2_{ADJ.}$ = .5584

$N_{WEIGHTED}$ = 3092

* $p \leq .01$

= Age is coded as the natural logarithm of age (continuous).

Minority group status ceased being significant during the later period suggesting that with the changes in Quebec, most, if not all, French origin migrants had French as their mother tongue.

Structural Level Effects: 1966 to 1971

The British Group

Economic Conditions

During the period 1966-71, origin economic conditions (in the rest of Canada excluding Quebec) were significant in explaining the migration behavior of the British group but the hypotheses for the economic variables were not supported. In Table 6, the migration rate was directly related to origin income level and inversely related to origin unemployment level. Both effects were relatively weak influences in the full model. Economic conditions in Quebec, the destination, on the other hand, were not significant for the British group.

The migration of the British ethnic group to Quebec appears to have been undertaken by the relatively well-off and employed, moving possibly as a result of opportunities provided in the origin (e.g. job transfer, recruitment) which would further improve the quality of life rather than an attempt to escape adverse economic conditions.

Subcultural Conditions

All origin effects with the exception of Percentage of the Population with English Mother tongue (CanEngMT) were significant for the British group during the earlier period. Among the destination effects, only Percentage of the Population with French Mother Tongue (QueFrMT) and of British Ethnic Origin (QueBrit) were significant (see Table 6).

Table 6. Individual and Structural Level Effects for Migration to Quebec Between 1966-71 (British and French Groups)

BRITISH					FRENCH				
Variable	b	SEb	Beta	t	Variable	b	SEb	Beta	t
Age1	.176	.462	.035	.381	Age1	2.683	.401	.553	6.684*
Age2	.095	.299	.020	.318	Age2	1.614	.285	.348	5.660*
Sex	-.176	.097	-.036	-1.815**	Sex	-.577	.086	-.123	-6.694*
Educ	1.672	.205	.500	8.162*	Educ	.104	.179	.033	.583
Occ	-.412	.213	-.080	-1.939**	Occ	-.255	.204	-.051	-1.247
MT	-1.620	.121	-.338	-13.397*	MT	2.311	.108	.503	21.380*
MGS	-1.391	.100	-.408	-13.934*	MGS	.685	.089	.210	7.678*
CanInc	1.697x10-4	6.650x10-5	.226	2.552*	CanInc	2.563x10-4	4.848x10-5	.355	5.287*
CanUnemp	-.132	.045	-.160	-2.953*	CanUnemp	-.027	.038	-.035	-.712
CanFren	.242	.053	.397	4.592*	CanFren	.213	.045	.365	4.751*
CanBrit	-.052	.017	-.230	-3.098*	CanBrit	-.012	.015	-.054	-.775
CanFrMT	-.509	.052	-.649	-9.766*	CanFrMT	-.515	.048	-.685	-10.844*
CanEngMT	-.007	.020	-.035	-.367	CanEngMT	-.068	.016	.346	-4.293*
QueInc	-8.041x10-5	6.283x10-5	-.110	-1.280	QueInc	1.919x10-5	5.262x10-5	.027	.365
QueUnemp	.027	.020	.046	1.381	QueUnemp	.007	.018	.012	.391
QueFren	-.033	.042	-.151	-.790	QueFren	-.018	.028	-.085	-.635
QueBrit	.075	.034	.249	2.204**	QueBrit	.083	.015	.290	5.535*
QueFrMT	.176	.055	.812	3.215*	QueFrMT	.027	.023	.129	1.149
QueEngMT	.056	.049	.234	1.140	Ln(QueEngMT)	-2.615	.214	-.643	-12.198*
Constant	-17.236	1.707		-10.097*	Constant	-1.627	1.361		-1.196
R^2 = .6166					R^2 = .6664				
$R^2_{ADJ.}$ = .6123					$R^2_{ADJ.}$ = .6627				
$N_{WEIGHTED}$ = 1742					$N_{WEIGHTED}$ = 1742				

* $p \leq .01$ ** $p \leq .05$

NOTE: In this and the following table, CANINC=Income Outside Quebec, CANUNEMP=Unemployment Outside Quebec, CANFREN=% French Outside Quebec, CANBRIT=% British OUtside Quebec, CANFRMT = % French Mother Tongue Outside Quebec, CANENGMT = % English Mother Tongue Outside Quebec. The remaining terms all correspond to these variables, but for Quebec only. "Ln" stands for natural logarithm.

The hypotheses for Percentage of the Population of British Ethnic Origin in both the origin (CanBrit) and destination (QueBrit) were supported. The rate was negatively effected by CanBrit and positively influenced by QueBrit. CanBrit was a relatively weak influence while QueBrit was a moderate one. The rate was also positively effected by Percentage of the Population of French ethnicity in the origin (CanFren) which was consistent with the above two effects.

While Percentage of the Population with French Mother tongue in the origin (CanFrMT) was the second strongest influence in the full model and in the destination (QueFrMT), the strongest, both hypotheses were not supported. The rate was inversely related to CanFrMT and directly related to QueFrMT.

The French Group

Economic Conditions

Origin income level was the only significant economic variable in Table 6, but as for the British group, the migration rate was directly related to income level suggesting that it was also a move undertaken by individuals with the ability to finance their desire to move to Quebec.

Subcultural Conditions

All origin variables with the exception of Percentage of the Population of British Origin(CanBrit) were significant for the French group. Among the destination variables, only Percentage of the Population with English Mother Tongue (LnQueEngMT) and of British Origin (QueBrit) were significant.

Origin Percentage of the Population with French Mother Tongue (CanFrMT) and, destination Percentage of the Population with English Mother Tongue (LnQueEngMT) were, respectively, the strongest and second

strongest influences in the full model. Both exerted a negative effect, as was hypothesized.

The direction of remaining significant effects were not as predicted for the French group in response to subcultural conditions. Origin Percentage of the Population with English Mother Tongue (CanEngMT) was a relatively weak and negative influence on migration. Origin Percentage of the Population of French Origin (CanFren) was a moderate and positive influence on moving to Quebec. Destination Percentage of the Population of British Origin (QueBrit) was the third weakest influence and had a positive effect.

Structural Level Effects: 1976 to 1981

The British Group

Economic Conditions

The migration of the British group to Quebec during the later period is shown in Table 7. Relocation to Quebec appears to have been more significantly influenced by destination economic conditions than during the earlier period. Both destination variables became significant. Destination income level was the weakest influence in the model but did operate as a positive influence, as predicted. However, destination unemployment level, as the second weakest influence, also exerted a positive effect.

In the origin, income level was no longer significant for the British group. Origin unemployment remained significant but reversed direction to operate as a positive influence. This was a fairly strong influence in the model.

Thus migration of the British group to Quebec during the later period occurred in response to origin unemployment and, albeit weakly,

Table 7. Individual and Structural Level Effects for Migration to Quebec Between 1976-81 (British and French Group)

BRITISH				
Variable	b	SEb	Beta	t
AgeL	2.477	.258	.575	9.606*
Sex	-.694	.069	-.133	-10.113*
Educ	1.278	.090	.371	14.278*
Occ	1.395	.113	.249	12.336*
MT	-4.308	.096	-.831	-44.663*
MGS	.791	.065	.253	12.097*
CanInc	-1.065x10-5	2.922x10-5	-.016	-.364
CanUnemp	.275	.025	.387	11.004*
CanFren	.336	.068	.317	4.925*
CanBrit	-.193	.019	-.640	-10.209*
CanFrMT	-.392	.081	-.273	-4.841*
CanEngMT	.116	.018	.520	6.474*
QueInc	5.238x10-5	2.557x10-5	.079	2.048**
QueUnemp	.056	.018	.096	3.150*
QueFren	-.180	.023	-.668	-7.712*
QueBrit	-.117	.022	-.193	-5.441*
QueFrMT	.149	.024	.570	6.144*
QueEngMT	.042	.022	.103	1.886**
Constant	-10.931	.811		-13.471*

R^2 = .7233

$R^2_{ADJ.}$ = .7217

$N_{WEIGHTED}$ = 3091

FRENCH				
Variable	b	SEb	Beta	t
Age1	-1.751	.658	-.315	-2.662*
Age2	-1.514	.407	-.284	-3.722*
Sex	.932	.094	.175	9.896*
Educ	.151	.113	.043	1.341
Occ	-1.072	.168	-.188	-6.394*
MT	3.615	.120	.684	30.053*
MGS	-.058	.082	-.018	-.714
CanInc	3.361x10-4	4.077x10-5	.493	8.246*
CanUnemp	.130	.031	.180	4.170*
CanFren	.307	.096	.284	3.208*
CanBrit	-.227	.024	-.738	-9.605*
CanFrMT	-.080	.105	-.055	-.760
CanEngMT	.160	.023	.703	7.044*
QueInc	-1.299x10-4	3.261x10-5	-.192	-3.982*
QueUnemp	-.125	.024	-.210	-5.191*
QueFren	.133	.029	.485	4.548*
QueBrit	-.093	.028	-.150	-3.271*
QueFrMT	-.172	.030	-.647	-5.695*
QueEngMT	.047	028	.114	1.652**
Constant	-13.298	.084		-12.270*

R^2 = .5849

$R^2_{ADJ.}$ = .5823

$N_{WEIGHTED}$ = 3092

* p≤.01
** p≤.05

increasing destination income. While destination unemployment did not deter in-migration, this was an extremely weak influence, and consistent with research findings, indicating that destination unemployment does not operate as much as a "push" as does origin unemployment.

Subcultural Conditions

All subcultural variables in both the origin and destination areas were significant during the later period, suggesting that subcultural conditions also played a more important role in the migration of the British group. Among the origin effects, only the ethnic variables Percentage of the Population of British Ethnic Origin (CanBrit) and of French Ethnic Origin (CanFren) were as expected, i.e. negative and positive, respectively. CanBrit was the third strongest influence which represented a considerable increase from the earlier period. CanFren remained a moderate influence.

The remaining two origin effects Percentage of the Population with French Mother Tongue (CanFrMT) and with English Mother Tongue (CanEngMT) were not consistent with the above effects. CanFrMT exerted a negative effect, as during the earlier period, while CanEngMT assumed significance during the later period only and had a positive effect. CanFrMT was a moderate influence, representing a considerable decline from the earlier period, while CanEngMT was a fairly strong influence.

Among the destination variables, only Percentage of the Population with English Mother tongue (QueEngMT) and of French Ethnic Origin (QueFren) were as predicted, i.e. positive and negative, respectively. Both variables were not significant during the earlier period. QueEngMT was an extremely weak influence while QueFren was the second strongest influence in the full model.

Among the two remaining destination variables, Percentage of the Population with French Mother Tongue (QueFrMT) continued to exert a positive and fairly strong influence on migration to Quebec, although its relative strength did decrease somewhat. Percentage of the Population of British origin (QueBrit) was a fairly weak influence, representing a small decline from the earlier period, and reversed direction to operate as a negative effect in 1976-81.

The French Group

Economic Conditions

Economic conditions also played a larger role for the French group during the later period. All economic variables in Table 7 are statistically significant. It appears that members of the French group continued to migrate to Quebec under conditions of relative prosperity, but also that employment considerations became operative. Unemployment was a "push" in both the origin and destination. Destination unemployment was the stronger "push". Destination income did not "pull" migrants, as hypothesized, but instead also operated as a "push" suggesting that migrants were willing to accept a lower income.

Subcultural Conditions

Subcultural conditions, particularly in Quebec, also played a larger role in the migration of the French group to Quebec during the later period. Among the origin effects, Percentage of the Population with French Mother tongue (CanFrMT) ceased being significant during the later period. Origin Percentage of the Population of British Ethnic Origin (CanBrit) assumed significance and was the strongest influence. However, the effect was negative and the hypothesis not supported. Origin Percentage of the Population with English Mother tongue

(CanEngMT) was the second strongest influence which represented a considerable increase from the earlier period. There was also a reversal in the direction of its effect to positive making it the only origin variable whose effect was as predicted for the French group. Origin Percentage of the population of French Ethnic Origin (CanFren) remained a moderate influence and continued to be positive.

Among the destination variables, only the effects of the ethnic compositional variables were as predicted. Percentage of the Population of French Ethnic Origin (QueFren) (not significant during the earlier period) was a fairly strong influence with a positive effect. Percentage of the Population of British Origin (QueBrit) reversed direction to negative and remained a weak influence.

The linguistic compositional variable Percentage of the Population with French Mother Tongue (QueFrMT) (not significant during the earlier period) was quite a strong but negative influence on migration. Percentage of the Population with English Mother Tongue (QueEngMT) shows the weakest influence in the model. There was also a reversal in the direction of its effect from negative in the earlier period, to positive in 1976-81.

7. CONCLUSIONS

The results of this study indicate that between the census periods 1966 to 1971 and 1976 to 1981, migration of the two charter groups to Quebec from the rest of the country showed a tendency towards becoming an increasingly French phenomenon. The results also indicate, however, that there was a decline in the average migration rates of both the British and French ethnic groups between the two census periods. Both

migrant characteristics and origin-destination conditions, particularly conditions in Quebec, appear to have been significant in explaining the changes in migration propensities of the two ethnic groups between census periods.

British migrants to Quebec were characterized by having relatively high levels of educational attainment, being relatively young and being predominantly in professional occupations during both census periods. However, during the earlier interval, they were also characterized by being predominantly male while during the later interval, the sex difference ceased being significant. French migrants, on the other hand, were characterized by being relatively young during both periods. During the earlier period, they were also charcterized by being predominantly male, having relatively low educational attainment and in professional occupations. In contrast, during the later period they were also characterized by being predominantly female, having relatively high educational attainment and in non-professional occupations.

Thus one of the consequences of the changes in Quebec during the later period appears to have been a change in the sex ratios of British and French migrants to the province. It may be speculated that the socialism ushered in with the Parti Quebecois victory in 1976 attracted females, particularly of French origin, by its promise of greater gender equality and participation. While this explanation may also have been applicable for the British group, another possibility is that unmarried British males became less interested in migrating to Quebec out of recognition that meeting social companions of the same ethnic group would be more difficult in Quebec than in other parts of the country. In any case, the changes in the directions of the educational and

occupational variables for the French group between census periods can possibly be explained in the context of the change in the direction of the sex difference. As a result of gender discrimination from the larger society, it would not be unreasonable to find males in professional occupations with relatively low levels of educational attainment and females in non-professional occupations with relatively high levels of educational attainment. The higher educational levels of the females is also consistent with the speculation that they were attracted by Quebec's radical political climate.

Ethnic origin was consistently a strong influence on the migration propensities between the two groups, especially during the later period of study. This trend was consistent with the widening differences in migration rates between the two groups over the time periods examined and with the political changes in Quebec during the later period favoring the French group. Mother tongue, on the other hand, was a significant variable during the later period only, a change consistent with the widening difference in favor of the French group, and also suggesting that within the French group, migrants were more likely to have French than English as their mother tongue. However, this change also suggested the possibility that many French migrants to Quebec during the later period were in fact return migrants who would be more likely to have French as their mother tongue.

The results for the mother tongue variable for the two groups considered separately suggested that intermarriage between the two groups resulted in the offspring of such marriages identifying more with the British group than the French group and possibly, as a result, being more likely to remain outside of Quebec than individuals who app[illegible]ed to

identify completely with the British or the French. This effect became much stronger for the British group during the later period and was consistently the strongest effect on migration for the French group.

During neither period was there evidence for the hypothesis that French origin persons with relatively high levels of educational attainment were more likely to migrate to Quebec than British origin persons with relatively high educational attainment as a result of social psychological insecurities about socioeconomic advancement in the face of societal discrimination. While there was a significant difference during both periods, it consistently favored the British group, suggesting that disparities in educational levels and social psychological orientations between the two groups resulted in the British group being more likely to possess the resources required by Quebec's private sector. The only support for this hypothesis was found within the British group during the later period when at higher educational levels, individuals with French mother tongue were more likely to migrate than persons with English mother tongue. This suggests the possibility that the anti-Quebec backlash in the rest of the country caused by the 1976 victory of the Parti Quebecois did result in a minority group status effect within the British group.

During the earlier period, migration was associated with favorable economic conditions in the origin but without significant influence by destination economic conditions for both charter groups. To some extent, the migration of both charter groups more fully conformed with traditional notions of economic "pushes" and "pulls" during the later period, with destination conditions playing a more significant role. There was also some support for the subcultural hypotheses with a trend

towards greater significance of destination conditions during the later period apparent as well.

To conclude, the overall results of this study suggest that the unilateral actions taken by the Quebec government during the 1976 to 1981 period (e.g. French language policy, advocacy of sovereignty association), have not been favorably responded to by either of the two charter groups. While this is an understandable response from the British group, the French minorities in the rest of Canada also demonstrated migration behavior which indicates a desire to remain "Canadiens" rather than become "Quebecois". This fact fosters support for the federal policy of bilingualism and biculturalism in the rest of the country regardless of Quebec's actions.

Almost ten years have passed since the latter period analyzed in this study and future work in this area needs to be explored to see if the trends evident during the 1976 to 1981 period have continued.

Another consideration for future work in this area would be to analyze out-migration of the two charter groups from Quebec to other regions of the country. This was not possible in this study due to data limitations but would certainly contribute to a further understanding of migration exchanges between Quebec and other parts of the country.

REFERENCES

Beaujot, R.P. 1979. "A Demographic View on Canadian Language Policy", Canadian Public Policy 1(Winter):16-29.

Breton, R. 1968. "Institutional Completeness of Ethnic Communities and the Personal Relations of Immigrants". Pp. 77-94 in B.R. Blishen, F.E. Jones, K.D. Naegele, and J. Porter (eds.), Canadian Society: Sociological Perspectives. Toronto: MacMillan.

Frisbie, W.P. and F.D. Bean 1979. "Some Issues in the The Demographic Study of Racial and Ethnic Populations". Pp. 1-14 in F.D. Bean and W.P. Frisbie (eds.), The Demography of Racial and Ethnic Groups. New York: Academic Press.

Goldscheider, C. and P.R. Uhlenberg 1969. "Minority Group Status and Fertility", American Journal of Sociology 74(4):361-372.

Joy, R.J. 1978. Canada's Official-Language Minorities. C.D. Howe Research Institute.

Joy, R.J. 1972. Languages in Conflict: The Canadian Experience. Toronto/Montreal: McClelland and Stewart Limited.

Kobrin, F.E. and A. Speare Jr. 1983. "Out-Migration and Ethnic Communities", International Migration Review 17(3):425-444.

Lachapelle, R. and J. Henripin 1982. The Demolinguistic Situation in Canada: Past Trends and Future Prospects. The Institute of Research on Public Policy.

Lee, E.S. 1966. "A Theory of Migration", Demography 3(1):47-57.

Petersen, W. 1969. Population. New York: MacMillan.

Ritchey, P.N. 1976. "Explanations of Migration", Annual Review of Sociology 2:363-404.

Shaw, R.P. 1985. Intermetropolitan Migration in Canada: Changing Determinants Over Three Decades. Toronto: New Academic Press.

Shaw, R.P. 1975. Migration Theory and Fact. Regional Science Institute.

Thompson, B. 1983. "Social Ties and Ethnic Settlement Patterns". Pp. 341-360 in W.C. McCready (ed.), Culture, Ethnicity, and Identity. New York: Academic Press.

Trovato, Frank and T.K. Burch 1980. "Minority Group Status and Fertility in Canada", Canadian Ethnic Studies 12(3):1-18.

Trovato, F. and S.S. Halli 1983. "Ethnicity and Migration in Canada", International Migration Review 17(2):245-267.

Trovato, F. 1989. "The Interurban Mobility of the Foreign Born in Canada, 1976-81", International Migration Review 22(3):59-86.

Uhlenberg, P. 1973. "Noneconomic Determinants of Nonmigration: Sociological Considerations For Migration Theory", Rural Sociology 38(3):296-311.

Wieler, E.E. 1985. "The French in Western Canada". Pp. 55-81 in J.W. Friesen (ed.), When Cultures Clash: Case Studies in Multiculturalism. Calgary: Detseelig Enterprises Limited.

RESEARCH DISCUSSION PAPER SERIES

61. Demographic Concerns in Belles-Lettres: Insights From the Writings of Günter Grass and Margaret Atwood.
Karol Krótki and Guy Germain. January 1990.

62. Some Lacunae in Demographic Data Collection in South Asia with Special Reference to India.
Parameswara Krishnan. January 1990.

63. The Emergence of Multiethnicities in 1981 and 1986: Their Sociocultural Significance.
Karol Krótki and Dave Odynak. February 1990.

64. Dynamics of Internal Migration in Bangladesh.
A.K.M. Nurun Nabi. April 1990.

65. Why Are Canadians Dying Out?
Karol Krótki. April 1990.

66. A Theoretical Model for the Study of Migration and Urbanisation
David Achanfuo-Yeboah. May 1990.

67. Political Demography of the Emergence of Bangladesh
A.K.M. Nurun Nabi and P. Krishnan. May 1990.

68. Dependency Ratios: Conventional and Real.
Parameswara Krishnan and Manoshi Das. June 1990.

69. Log-Linear Modelling and Simultaneous Standardization of Rates.
Frank Trovato. November 1990.

70. Unemployment and Occupational Aspirations: A Panel Study of High School Graduates.
Susan Empson-Warner and Harvey Krahn. November 1990.

71. An Analysis of Native Mortality in Canada.
Andrea Werner-Leonard and Frank Trovato. November 1990.

72. Ethnic Variations in Fertility: Microeconomic and Minority Group Status Effects.
Tina W.L Chui and Frank Trovato. December 1990.

73. Quantifying Semi-Structured Interviews.
Harvey Krahn. December 1990.

74. Sampling Methods for Telephone Surveys.
N.M. Lalu. January 1991.

75. Three Models for Macro-Simulation and Population Projection.
N.M. Lalu. January 1991.